



**In the United States Patent and Trademark Office**

Appn. Number: 10/602,451  
Appn. Filed: 06/24/2003  
Applicant: Steve Thorne  
Title: Speed-Monitoring Radar-Activated Brake Light  
Examiner: Yonel Beaulieu /AU3661

Mailing date: 5 July 2006

**APPEAL BRIEF**

***37 CFR 41.37(c) (1) (i) Real Party in Interest:***

The Real Party in Interest is Steve Thorne (applicant) residing at 3315 Grand Avenue,  
Oakland California 94610.

***37 CFR 41.37(c) (1) (ii) Related appeals and interferences:***

None.

***37 CFR 41.37(c) (1) (iii) Status of Claims:***

Claims 1 through 11 were canceled by applicant in Amendment A.

Claim 12 was rejected by the Examiner in Office Action 2.

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Applicant's *Conditional Request for Constructive Assistance* in the drafting of a suitable claim pursuant to M.P.E.P. 2173.02 and M.P.E.P. 707.07(j) was acknowledged, but respectfully deferred until the Examiner positively identifies allowable subject matter.

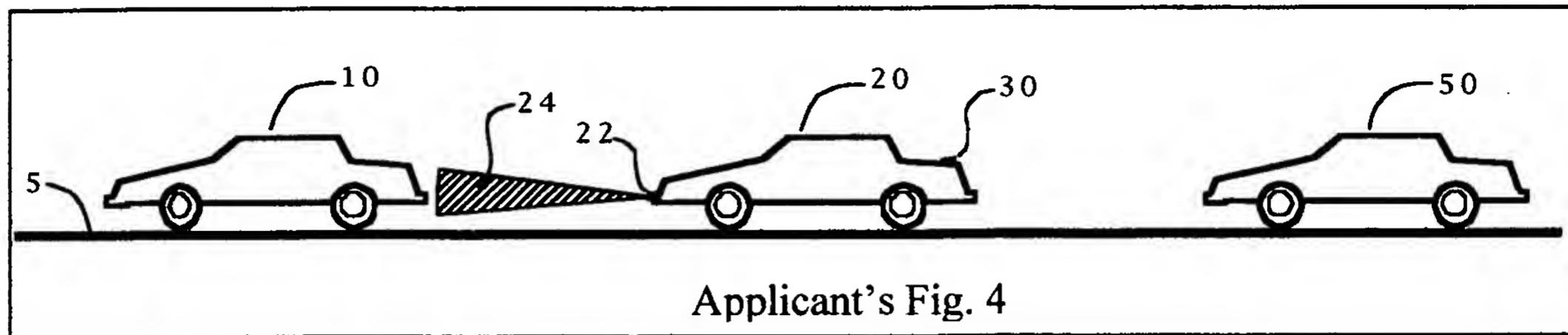
***37 CFR 41.37(c) (1) (iv) Status of Amendments:***

Amendment A, mailed 7 Feb 2005, was entered into the file.

***37 CFR 41.37(c) (1) (v) Summary of Claimed Subject Matter:***

The claimed subject matter involved in this Appeal is stated in applicant's patent specification under '*Objectives and Advantages of the Invention*' (page 5, line 4): "*to provide a unique device, integral with a vehicle, that can monitor the relative speed of a vehicle forward of the invention-equipped vehicle, and, upon recognition of potentially hazardous changes in vehicle speed, alert the driver of a trailing vehicle ...*". Further, under '*Summary of the Invention*' (page 5, line 21): "*The stated objectives and advantages are accomplished by uniquely integrating into a vehicle a radar device to measure the speed of a forward vehicle; a sensor input from the speedometer of the radar-equipped vehicle; a computer processor to evaluate the data for potentially hazardous speed changes; (and) a luminous display mounted on the radar-equipped vehicle to warn the driver of a trailing vehicle...*".

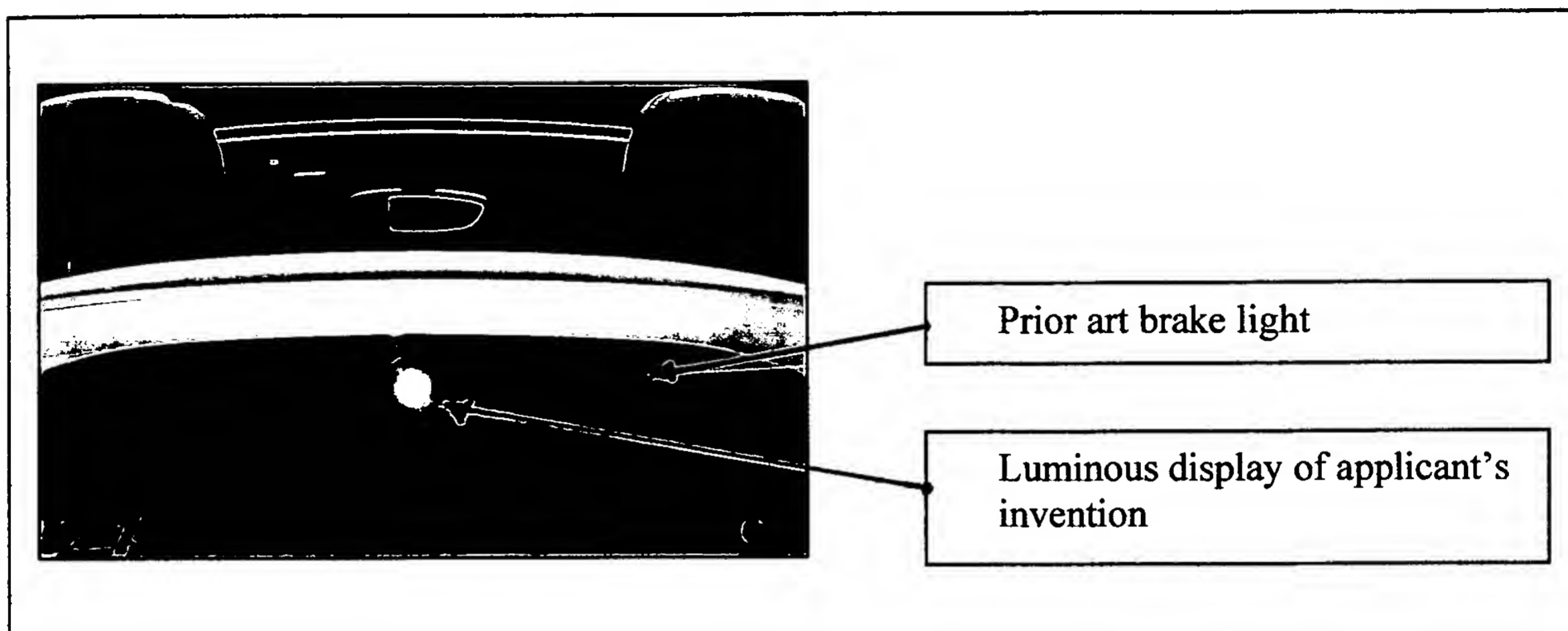
Further understanding is gained with reference to applicant's Fig.4, Dwg. 2/2



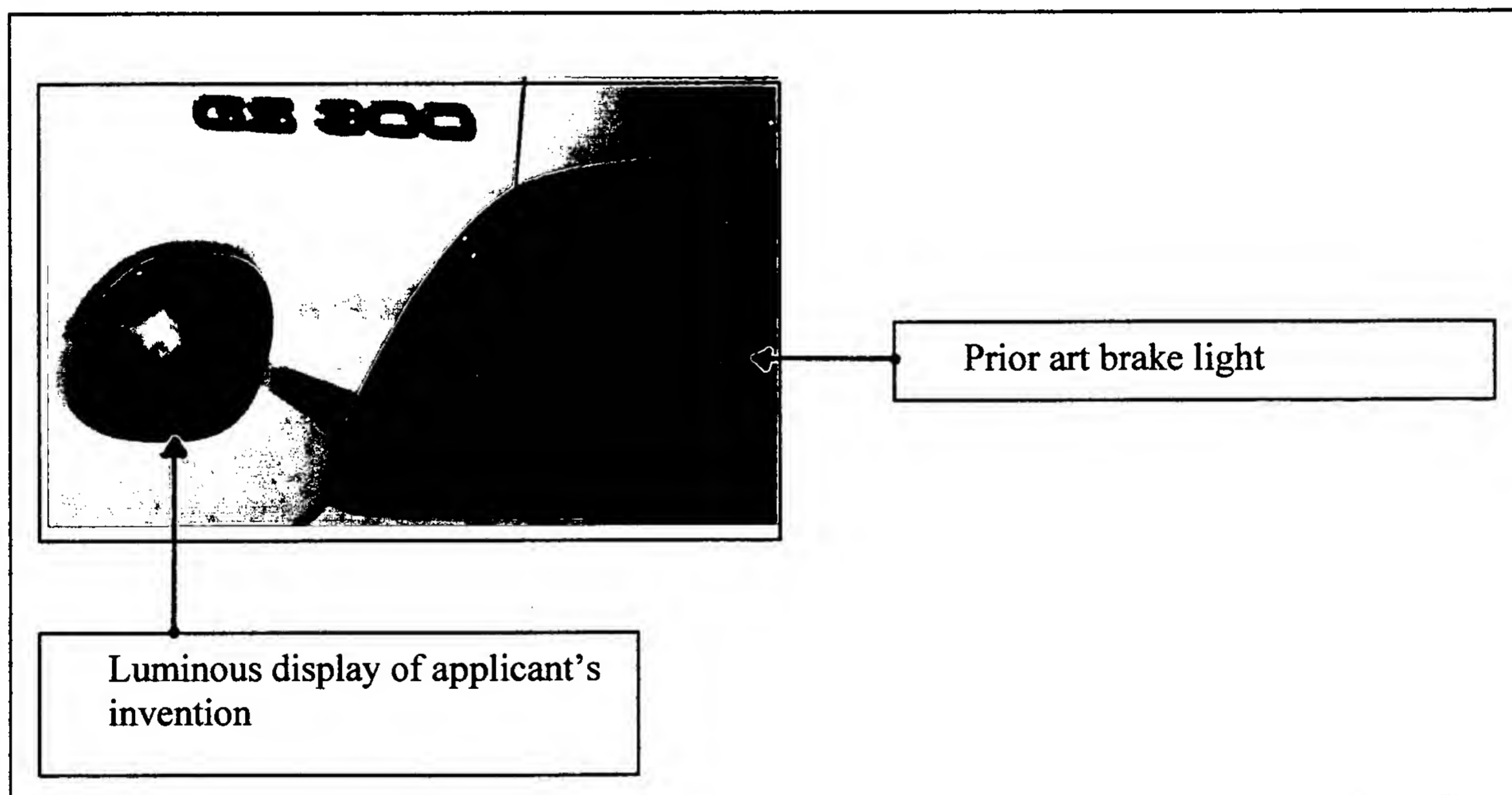
From (page 7, line 4) of the *specification*: “Front radar 22 reflects front radar signal 24 off forward vehicle 10 to ascertain the speed of forward vehicle 10 relative to radar-equipped vehicle 20. Relative-speed data measured by front radar 22, together with the road-speed data of radar-equipped vehicle 20 registered by speedometer sensor 26 is sent to CPU 28 allowing for the computation of the road-speed of forward vehicle 10 – that is - the speed of forward vehicle 10 relative to roadway 5. CPU 28 monitors the derived road-speed of forward vehicle 10 and when a significant reduction is detected activates luminous display 30 ... Luminous display 30 is of sufficient brightness and so positioned on radar-equipped vehicle 20 to be visible to the driver of trailing vehicle 50. In this preferred embodiment luminous display 30 is a rear-mounted light noticeably different in color from the red color of prior art brake lights 40.”

It should be repeated that **the luminous display is positioned to be visible to the driver of the trailing vehicle and not the driver of the host vehicle.** Accordingly, it operates differently from, and in tandem with, prior art brake lights. Examples that teach this configuration and show how applicant's preferred embodiment of the invention might be incorporated into two vehicles are illustrated in Figure A.1 and

Figure A.2. Images shown are what the trailing driver would see when applicant's luminous display is in operation.



**Figure A.1**



**Figure A.2**

***37 CFR 41.37(c) (1) (vi) Grounds of Rejection:***

Claim 12 was rejected by the Examiner under 35 U.S.C. 102 as being “*anticipated by Iihoshi et al (US 6,032,097)*”. Examiner also makes reference to *Wilson* (US 5,504,472) as prior art that “*teaches a vehicle deceleration warning light to warn a following driver of a rapid deceleration.*”

As stated in the 37 CFR 41.3 (c)(1) iii above, applicant’s *Conditional Request for Constructive Assistance* in the drafting of a suitable claim pursuant to M.P.E.P. 2173.02 and M.P.E.P. 707.07(j) was acknowledged, but respectfully deferred until the Examiner positively identifies allowable subject matter.

**37 CFR 41.37(c) (1) (vii) Arguments:**

*(Format note: references cited within this section made to the patent of Iihoshi et al and to Wilson use the notation [column number, line number] to define their location within their specification.)*

**NOT ANTICIPATED**

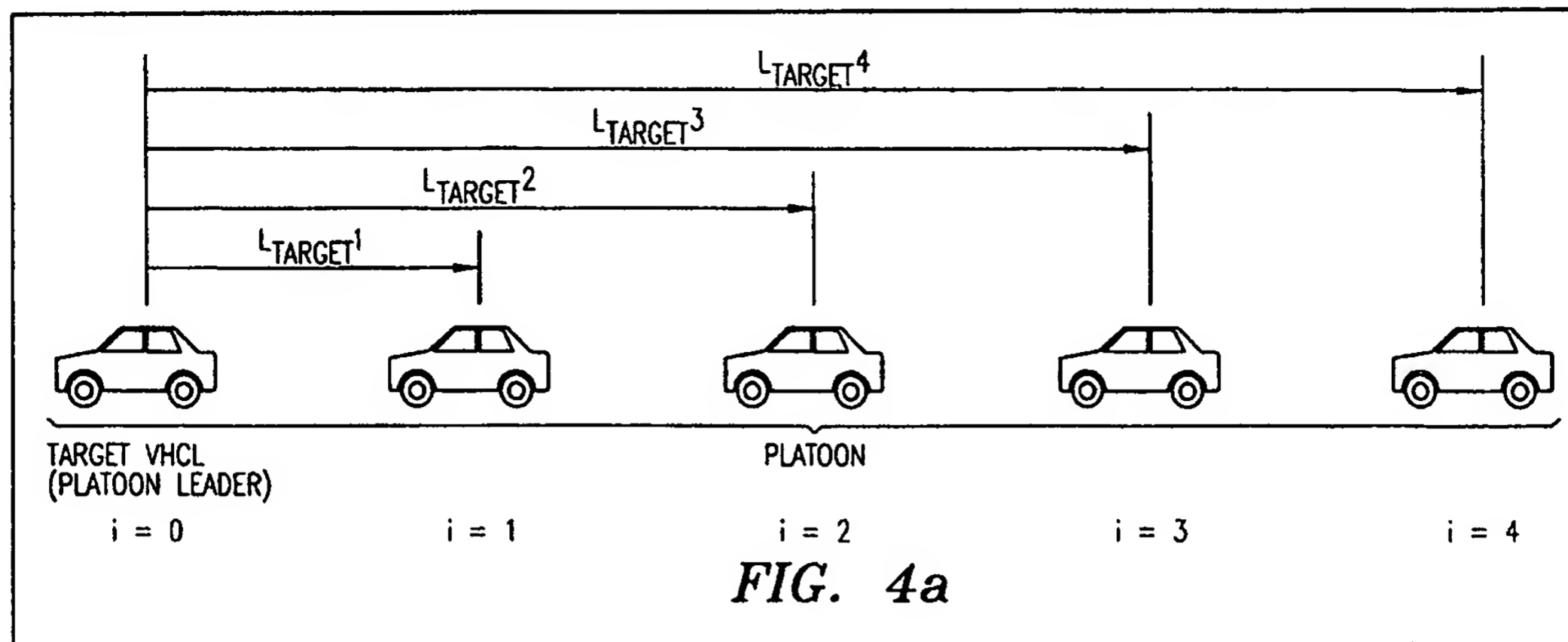
As defined by 35 U.S.C. 102, *“To anticipate a claim, the reference must teach every element of the claim”*. And as established by *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) *“A claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, in a single prior art reference”*.

Applicant may have caused confusion in the drafting the *specification*, for the term ‘*luminous display*’ was used to describe an element that might be better defined as a ‘*warning light*’. Accordingly, confusion in function and intention might be found between a luminous display (light) like one might find on a vehicle dashboard **intended to be viewed by the driver of the host vehicle**, and a warning light similar to prior art brake lights located on the rear of a vehicle **intended to be viewed by the driver of the vehicle trailing the host vehicle**. This is an important distinction. Applicant’s claim 12 defines a radar-activated luminous display (warning light) intended to be visible to a **trailing driver**. Specifically, claim 12, paragraph 3 reads (for full claim, see 37 CFR 41.37(c) (1) (viii) *Claims Appendix* included herein).

“3. *a CPU controllable luminous display, mounted integrally with said host vehicle, sufficiently bright and strategically positioned to be visible to the driver of a vehicle trailing said host vehicle, activated whenever a significant negative value in said absolute acceleration of said forward vehicle occurs.*”

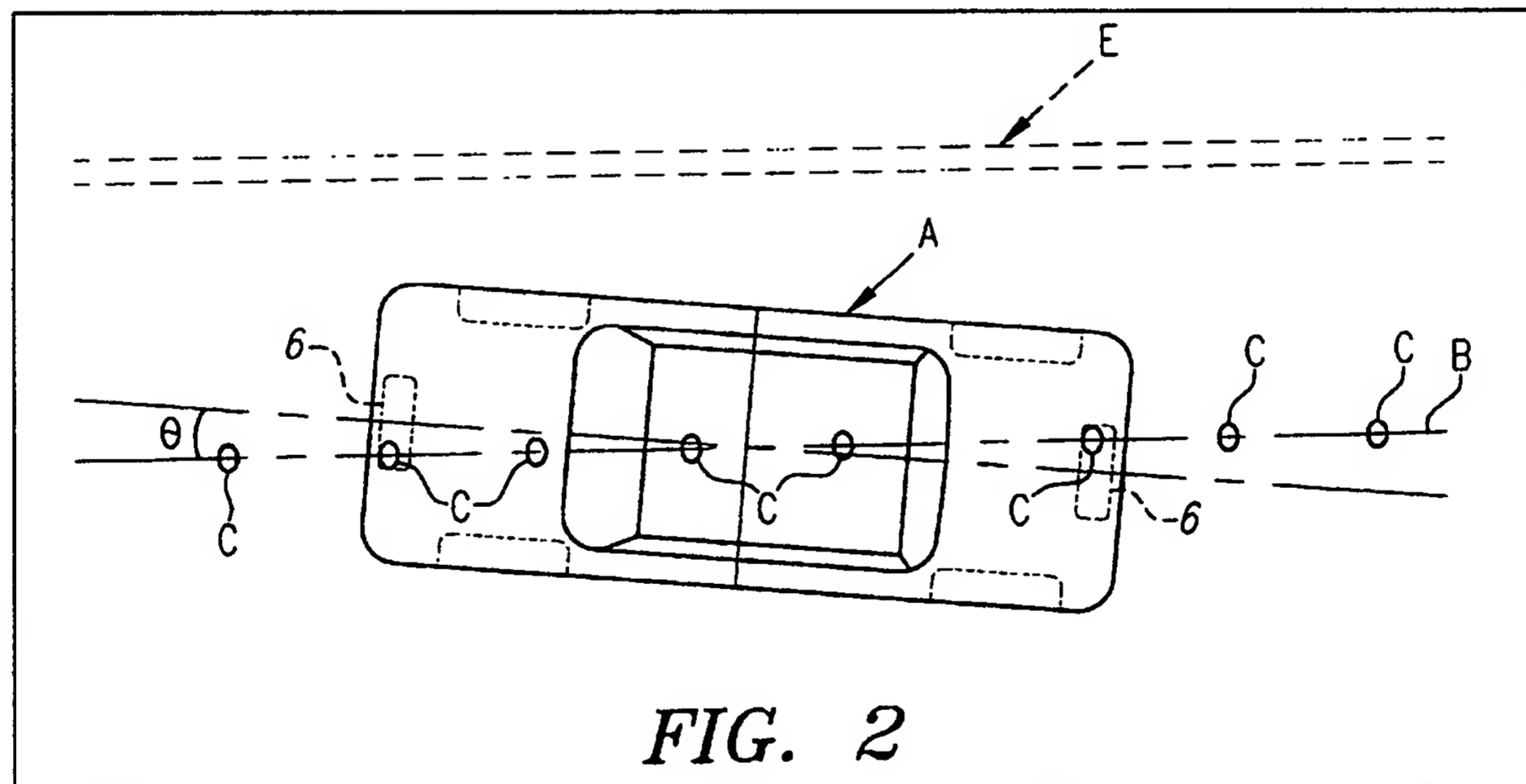
**Claim 12 could not have been *anticipated* by the patent of *Iihoshi et al* because the ‘luminous display’ (warning light) element set forth in applicant’s claim 12 is not described, either expressly or inherently in their patent.**

The patent of *Iihoshi et al* describes an invention that controls a platoon of vehicles so they may safely and *automatically* travel together. *Iihoshi et al* state [6,43]: “*When the automatic driving start switch 12 is turned on, the control plan module 2 starts generating information for automatically driving the motor vehicle*”; then [In their abstract]: “*Each of the following motor vehicles controls itself to run in platoon...*”; and on [6,6]: “*the automatically driven motor vehicle basically runs on the running path B on which the magnetic information sources C are arrayed*”. *Iihoshi et al* show this arrangement in each of their drawings, but in particular in Fig. 4(a) and Fig. 2 reproduced below:



[Iihoshi et al's Fig. 4a]

Relevant to fig 4a, *Iihoshi et al* write [6,47]: “Fig 4(a) shows a platoon of automatically driven motor vehicles...”.

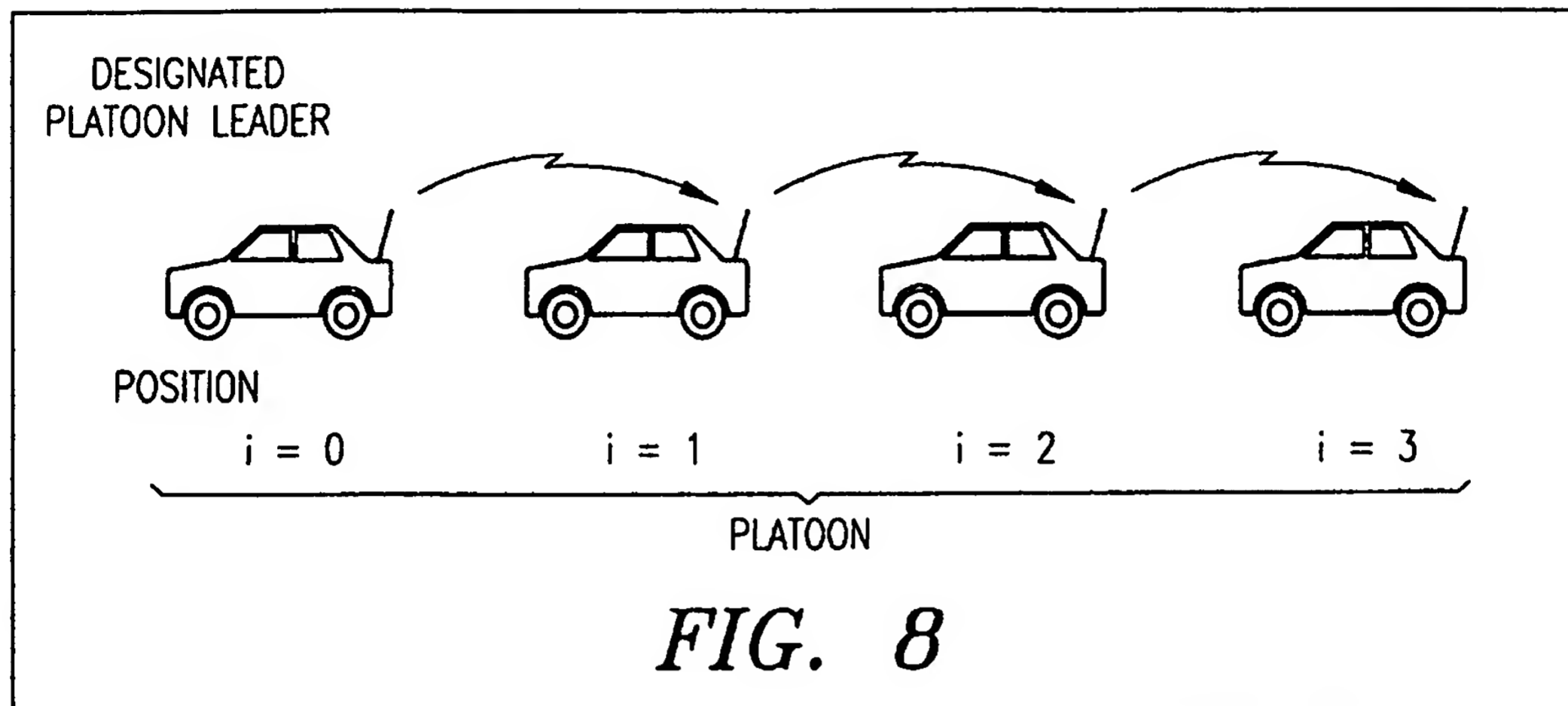


[Iihoshi et al's Fig. 2]

Relevant to fig 2, *Iihoshi et al* write [5,22] “As shown in FIG. 2, the magnetic sensors 6 are disposed respectively beneath front and rear bumpers of the motor vehicle.”

*Iihoshi et al's* device does utilize radar ranging, but it also requires magnetic markers and coaxial cable to be placed in the roadway [5,22] & Fig.2; it requires that **each vehicle** within the platoon have an intervehicular communication module [5,36]; a control plan module for establishing a preferred path and speed for travel [7,21]; a yaw rate sensor for detecting an angular velocity of the motor vehicle [5,6]; two magnetic sensors for detecting the magnetic information embedded in the roadway [5,8]; a wheel pulse sensor [5,19]; an automatic driving start switch [6,42]; a control actuator in the throttle system [10,33]; and a brake actuator in the braking system [10,34]. It is a complex device that may indeed have value, but it does not *anticipate* the applicant's invention.

The word 'display' is used exactly twice in their specification [9,67] & [10,8] but in both instances it refers to a '*image display unit 18*' which is diagramed in their figure 1 and very clearly represents an element mounted on the host vehicle to *supply information to the host driver* – in other words - a dashboard light. And it is a dashboard light hosted by each vehicle, controlled by each vehicle control system, and viewed individually by each driver. Notice the inclusion of the word '*each*' when *Iihoshi et al's* state [5,1]: "*each of the automatically driven motor vehicles has a communication module 1, a control plan module 2, a lateral (steering) control module 3, and a vehicle speed control module 4*" and the description of their Fig. 8 [4,25] "*Fig. 8 is a diagram illustrative of a manner in which each of motor vehicles in a platoon recognizes its position in the platoon*".



[Iihoshi et al's Fig. 8]

Lastly, the paragraph [5,36] illustrates that *Iihoshi et al's* means of communication is an electronic means between electronic devices within each separate host vehicle and the roadway: "*The communication module 1 functions as a communication means for effecting road-vehicle communications the LCX cable E and also intervehicular communications with the other motor vehicle through communication devices 7, 11 on its own motor vehicle which each comprise an antenna and a transmitter/receiver.*"

Nowhere in their *Iihoshi et al's* specification can one find the words 'warning', 'warning light', 'brake light' or even 'light' for that matter, because those are terms that describe an element involving human interface - and that is the element which the object of their patent seeks to eliminate. To further illustrate how their automatic driving

method teaches us nothing about communicating a warning to a trailing driver and was not an object of *Iihoshi et al's* patent, we can notice the complete lack of other human interface terminology. The term '*driver*' was used exactly once in their specification [1,28] – when discussing '*driver fatigue*' in their '*Background of the Invention*'. Never did they use the terms '*person*', '*human*', '*individual*', '*operator*' or any other word or phrase to reflect human interaction. Never did they use the terms '*observe*', '*discern*', '*witness*' or '*spot*', and they only used the terms '*view*' or '*see*' twice but each time when making reference to their own drawings. **Nowhere in *Iihoshi et al's* patent is there any expressed element of a 'luminous display' which is be mounted on a host vehicle and viewed by a trailing driver.** It will be shown further below that such an element would work in clear opposition to the object of *Iihoshi et al's* device and thus is not *inherent* in what they teach us.

But before continuing with the analysis of *Iihoshi et al's* patent, it should be remembered that applicant's application describes a device mounted on a single host vehicle which operates independently of any other vehicle, requires no modification to the roadway, and has no control over the path of the vehicle. It is a simple system whereby a host vehicle uses radar to monitor the braking status of a forward vehicle and when that vehicle slows it illuminates a warning light so that a trailing driver is less likely to slam into the host.

*Iihoshi et al* write in their '*Summary of the Invention*' [1,53]:

*"It is therefore an object of the present invention to provide a vehicle platoon system which is capable of stably controlling a platoon of motor vehicles..."*

Drivers are not supposed to participate in this control. Adding a warning light for each platoon driver to react to would cause each driver within the platoon to initiate their own braking and lead to the failure of their system. *Iihoshi et al's* '*vehicle speed control module 4*' reacting to data produced from their '*control plan module 2*' could never successfully account for the variation in reaction times between each driver within the platoon who may or may not even observe the warning. **As soon as drivers take control of their own braking, *Iihoshi et al's* invention no longer functions.**

Clear and distinct differences between applicant's invention and that of *Iihoshi et al's* can be further understood by looking at *Iihoshi et al's* claims:

*"What is claimed is:*

*1. A vehicle platoon control system for controlling a platoon of motor vehicles, comprising:"*

Applicant's invention is hosted entirely within one vehicle and has no means to actively control any other vehicle. *Iihoshi et al's* continues:

*“means for establishing a target motor vehicle for leading the platoon of motor vehicles;”*

Applicant's invention has no means for establishing a target motor vehicle.

*“means for transmitting motion information including a position and speed of the target motor vehicle to the motor vehicles which follow the target motor vehicle; and”*

Here, the ‘*means for transmitting motion*’ is clearly a radio electronic link between vehicles that requires both a device for broadcasting information and a device for receiving it. Reference also their words [5,57]: “*the communication module 1 transmits to and receives from*”. Further, this communication occurs directly between electronic devices – as compared to a means of communication intended for human interface. This is clear from the next defined element in their claim:

*“controlling means on each of the following motor vehicle, wherein the controlling means on a given motor vehicle selected from the following motor vehicle comprises a first control loop for controlling the given motor vehicle to follow the target vehicle, and a second control loop having a gain which is nonlinearly variable with respect to the intervehicular distance between the given motor vehicle and a motor vehicle within the platoon preceding the given motor vehicle.”*

The “*means of communication*” is a means that operates directly between the hardware of separate vehicles – it is not the ‘luminous display’ element defined in applicant’s claim 12. The phrase ‘*control loop for controlling the given motor vehicle*’ is clearly not intended to be the *driver* of the vehicle.

Claims 2 and 3 are dependent claims and, accordingly, the same differences hold.

Claims 2 and 3 read:

“2. *The vehicle platoon control system of claim 1, wherein the gain of the second control loop exponentially increases to exponentially increase the intervehicular distance if the intervehicular distance approaches a predetermined minimum intervehicular distance.*

3. *The vehicle control system of claim 1, wherein the controlling means on the given motor vehicle further comprises means for transmitting a target intervehicular distance from the target motor vehicle and a length of the given motor vehicle to a motor vehicle within the platoon following the given vehicle.”*

Applicant’s invention has neither of the elements of these two claims.

*Iihoshi et al's* second independent claim, claim 4, defines a device almost identical to that of claim 1, except it includes a means for defining a '*hypothetical target motor vehicle*' for leading the platoon. Claim 4 reads:

*"A vehicle platoon control system for controlling a platoon of motor vehicles, comprising:*

*means for establishing a hypothetical target motor vehicle for leading the platoon of motor vehicles;*

*means for transmitting motion information of the hypothetical motor vehicle to the motor vehicles which follow the hypothetical target motor vehicle; and*

*controlling means on each of the following motor vehicles, wherein the controlling means on a given motor vehicle selected from the following motor vehicles comprises a first control loop for controlling the given motor vehicle to follow the hypothetical target vehicle, and a second control loop having a gain which is nonlinearly variable with respect to the intervehicular distance between the given motor vehicle and a motor vehicle within the platoon preceding the given motor vehicle."*

Claims 5 and 6 are dependent claims that make no reference to any element of applicant's invention. Claims 5 and 6 read:

*“5. The vehicle platoon control system of claim 4, wherein the gain of the second control loop exponentially increases to exponentially increases to exponentially increase the intervehicular distance if the intervehicular distance approaches a predetermined minimum intervehicular distance.*

*6. The vehicle platoon control system of claim 5, wherein the controlling means on the given motor vehicle further comprises means for transmitting a target intervehicular distance from the hypothetical target motor vehicle and a length of the given motor vehicle to a motor vehicle within the platoon following the given vehicle.”*

That is *Iihoshi et al* 's claims in their entirety.

Applicant does not find the element of a 'luminous display' anywhere within them.

**Accordingly, applicant believes that there are no grounds for rejecting applicant's claim 12 based on it being 'anticipated' by *Iihoshi et al*.**

**APPLICANT'S LUMINOUS DISPLAY IS NOT INHERENT IN THE  
PATENT BY *IHHOSHI ET AL.***

***Iihoshi et al's* patent teaches a device contrary to the principle of applicant's invention.** *Iihoshi et al's* device is designed to circumvent the actions of the driver and automatically control both the throttle and braking of a vehicle [10,33]. It is illogical to assume that anyone familiar with *Iihoshi et al's* device would also include a separate brake warning light for trailing driver to view. Throughout the entire body of *Iihoshi et al's* specification, nowhere do they use the words 'warning', 'warning light', 'brake light' or even 'light' for that matter. Those are terms that describe an element involving human interface, and that is the element that the object of their patent seeks to eliminate. Further, *Iihoshi et al's* use the term '*driver*' exactly once in their specification – when discussing '*driver fatigue*' in their '*Background of the Invention*'. Never did they use the terms '*person*', '*human*', '*individual*', '*operator*' or any other word or phrase to reflect human interaction. Never did they use the terms '*observe*', '*discern*', '*witness*' or '*spot*', and they only used the terms '*view*' or '*see*' twice when making reference to their own drawings. **The object of human interface is simply not part of *Iihoshi et al's* teaching.**

Accordingly, applicant does not believe anyone reasonably trained in this field would look at the patent of *Iihoshi et al* and consider the element of a 'warning light' intended for driver response to be taught to us **when this element is never introduced by them and reference terms teaching the value of human interface were never**

**mentioned either expressly or inherently anywhere** within their abstract, their specification or their claims.

Further, if such an element as a ‘warning light’ were to be incorporated into their device, drivers within the platoon would react to the warning, and initiate braking for themselves creating a loss of control over the platoon – directly contradicting the stated object of their patent. It makes no sense that a conflicting element would be *inherent* to a device. It makes no sense that applicant’s claim 12 element would be *inherent* to *Iihoshi et al’s* device.

**A brake warning light may indeed be constructible using common prior art technology, but the significance of combining this element with radar onto a single host vehicle in such a method and configuration that it can inform a driver trailing the host vehicle about the braking condition of a vehicle forward of the host vehicle is not obvious and certainly not inherent in *Iihoshi et al’s* patent.**

## WILSON'S PATENT, US 5,504,472

### WILSON'S PATENT FAILS TO TEACH APPLICANT'S INVENTION

The Examiner makes reference (see '*Conclusion*' of *Office Action Summary*) to the teachings of a prior art patent by *Wilson* (US 5,504,472) which Examiner has "*not relied upon (but) is considered pertinent to applicant's disclosure*" because "*Wilson teaches a vehicle deceleration warning device light to warn a following driver of a rapid deceleration.*" Applicant's invention could not have been learned from what the patent of *Wilson* teaches us because *Wilson's* patent teaches us a completely different invention that operates on completely different principles:

Firstly, the '*rapid deceleration*' stated, refers to the deceleration of the host vehicle **not** the vehicle forward of the host vehicle;

secondly, *Wilson's* device does not include the element of radar; and

thirdly, for *Wilson's* warning light to be activated – and convey the braking information to a trailing driver - the driver of the host vehicle must perform some action (braking). Applicant's device operates independently without any operator action.

**In *Wilson's* teaching:**

The viewer of the warning light learns of the braking status of the vehicle directly forward of the host.

**In *applicant's* teaching:**

The viewer of the warning light learns of the braking status of the vehicle **two cars** forward of the host.

**In *Wilson's* teaching:**

The warning light is activated when the driver of the host vehicle applies their brake.

**In *applicant's* teaching:**

The warning light is activated when the driver of the **vehicle forward of the host vehicle** applies their brake.

*The unique teaching of **applicant's** device is the value of providing a trailing driver information about the braking of a vehicle in front of the host vehicle – **not** the braking of the host vehicle itself; the trailing driver learns braking information about a vehicle two vehicles in front of him or her rather than just one (as prior art teaches us).*

If *Wilson's* patent is cited in this rejection because it teaches us the element of a warning light viewable by a trailing driver conveying braking information about the host vehicle, then clearly this reference is not needed, for prior art brake lights used in all vehicles for 100 years have taught us the value of a exactly such a light – they warn a trailing driver of the braking status of the host vehicle.

But let us review in more detail what *Wilson's* patent teaches us. A fair summary is gained from his Abstract:

*“A vehicle deceleration warning light is disclosed that includes a pressure switch in fluid communication with the master hydraulic brake cylinder. When the pressure reaches a predetermined level that is representative of panic or emergency braking, the pressure switch activates a delayed and latched switch that, after a suitable interval, turns on a contrasting colored flashing warning indicator on the rear deck of the motor vehicle to warn a following driver of the rapid deceleration.”*

It should be noted that the ‘*rapid deceleration*’ refers to the rapid deceleration of the host vehicle. In *Wilson's* specification [2,57], “*It is a major object of this invention to provide a vehicle deceleration warning light that directs a flashing, distinctive, contrasting color to the rear window when a large pressure is applied to the brakes.*” It should be noted and clear that the ‘*pressure applied to the brakes*’ is the pressure applied by the driver of the host vehicle. *Wilson* continues [2,62]: “*It is another object of the*

*invention to provide a vehicle deceleration warning light wherein the indication of emergency braking is derived from monitoring the hydraulic pressure of the master cylinder.”* It should be noted and clear that the hydraulic pressure being monitored is the hydraulic pressure of the vehicle forward of the host.

## **IMPORTANT DIFFERENCES BETWEEN WILSON’S BRAKE LIGHT AND THAT OF APPLICANT’S.**

1. ***Wilson’s brake light does not convey any information about the braking of the vehicle forward of the host vehicle.*** *Wilson’s* brake light is activated when the driver of the host vehicle applies their brake powerfully. It informs a trailing driver that the host vehicle will be rapidly decelerating. *Wilson’s* device has no means to monitor the speed of a *vehicle forward of the host vehicle*, and thus no means to activate the warning light when the forward vehicle brakes. *Wilson’s* brake light conveys no information about the forward vehicle, and indeed, operates whether there is a forward vehicle there or not. In contrast, **applicant’s brake light conveys no information about the braking condition of the host vehicle.** Rather, what it **DOES** provide, through the incorporation of front radar 22, is direct information about the braking status of a *forward vehicle*.

2. ***Wilson’ brake light is activated by the action of the host driver.***

*Wilson* writes in his ‘Detailed Description Of The Preferred Embodiment’ [4,7] “As the driver (not shown) of the vehicle brakes, the tail light 34 are supplied with

*current through the activation of a switch...*”. If the driver of the host vehicle has slow reactions, or is intoxicated, or is inattentive, or simply does not have a clear view to the forward road, the warning light of *Wilson* will not be activated until a possibly significant period of time has elapsed. In contrast, the brake light of applicant’s invention is radar activated and operates independently of any action of the host driver and nearly instantaneously. ***Wilson’s* patent does not teach us of the need or advantage of eliminating the host driver’s reaction time from the operation of a warning light.**

3. **The brake light of *Wilson’s* invention is not activated under normal braking conditions.** *Wilson’s* patent teaches us about a warning light that is activated only upon panic braking situations – emergencies. Under normal braking conditions, *Wilson’s* brake light would not be activated. **What *Wilson’s* patent has failed to teach us – and what is unobvious – is that there is value in providing simultaneous information about the deceleration rates of both the host vehicle and the vehicle forward of the host vehicle under normal, non-emergency, braking.** Applicant’s invention provides a means to supply a driver trailing the host vehicle with this important new information.

Using an example that points out this important distinction, imagine we are driving in heavy traffic behind a large truck that obscures the view to the forward road. If that truck is host to the warning light of the invention taught to us by *Wilson*, then – like prior art brake lights - no information at all is provided about the traffic flow *ahead* of

the truck. Accordingly, if a vehicle ahead of the truck were to suddenly stop, we would not learn of the emergency until the driver of the truck applies their brakes. Even if that truck driver is attentive, the delay in his reactions will cause a significant delay before the brake lights are applied and we learn of the stoppage. If, however, that same truck were to have the radar-activated warning light of applicant's invention, then the moment the vehicle forward of that truck begins to slow, we would see the warning light activated and learn of the pending speed reduction. Indeed, in a case where the truck driver is distracted, we will learn of the braking condition **even before he does**.

One of the unique and unanticipated teachings of applicant's invention is that under extended normal driving conditions a trailing driver observing the simultaneous combination of prior art brake lights together with applicant's warning light will learn a pattern of traffic flow which would be otherwise indiscernible. A driver trailing a vehicle with prior art brake lights under normal 'stop and go' traffic observes a simple '**on-off**' pattern in the lights reflecting the on and off braking of that forward vehicle. However, if that same driver is trailing a vehicle equipped with applicant's invention, then they will observe an '**on-on**', '**off-off**' pattern reflecting the sequential braking of the two forward vehicles consistent with their relative positions. The pattern of '**on-on**' then '**off-off**' would be repeatedly observed as one travels down the road. If that pattern changes, then the trailing driver can deduce a change in the traffic flow that otherwise cannot be gleaned. One might even learn of the state of attentiveness of the driver hosting the applicant's invention by the delay in time between the observations of each warning light being activated. In an extreme case where a one observes the light

sequence indicating that the vehicle forward of host vehicle is braking but the host vehicle itself is not braking, then one can anticipate a collision between the two forward vehicles. ***Wilson's* patent cannot teaches us anything about the value of developing an association between warning light sequence and forward traffic flow because his device has no means to gather information about any other vehicle other than the host vehicle.**

### NOT A SINGLE PRIOR ART SOURCE

If *Wilson's* patent is cited because the patent of *Iihoshi et al* has no equivalent element to applicant's 'luminous display', and thus only when those two patents are considered together would then form a device that would anticipate applicant's invention, then this appears contrary to the rulings of patent law. In *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), it is ruled that "A claim is anticipated only if each and every element set forth in the claim is found, either expressly or inherently described, ***in a single prior art reference***".

*Wilson's* patent does not have the element of radar, and *Iihoshi et al's* patent has no host vehicle warning light. Only when combined could they produce a device such as the one taught to us by applicant's invention. But it is not reasonable to believe that these two inventions would be combined, for their teachings and their *objects* are contrary to each other. *Wilson* teaches us of a warning light that can inform a trailing driver of a rapid stop by the host vehicle – **for the purpose of allowing the trailing**

**driver to control their speed.** *Iihoshi et al* teach us of the elements of a ‘*vehicle speed control module*’ to “*control an actuator 15 in a throttle system of the motor vehicle and an actuator 16 in the brake system of the motor vehicle*” – **for the purpose of automatically controlling each vehicle within a platoon and circumventing the actions of the driver.** Indeed, if the two devices were to be combined, they would negate each other and the combined system would not be operational.

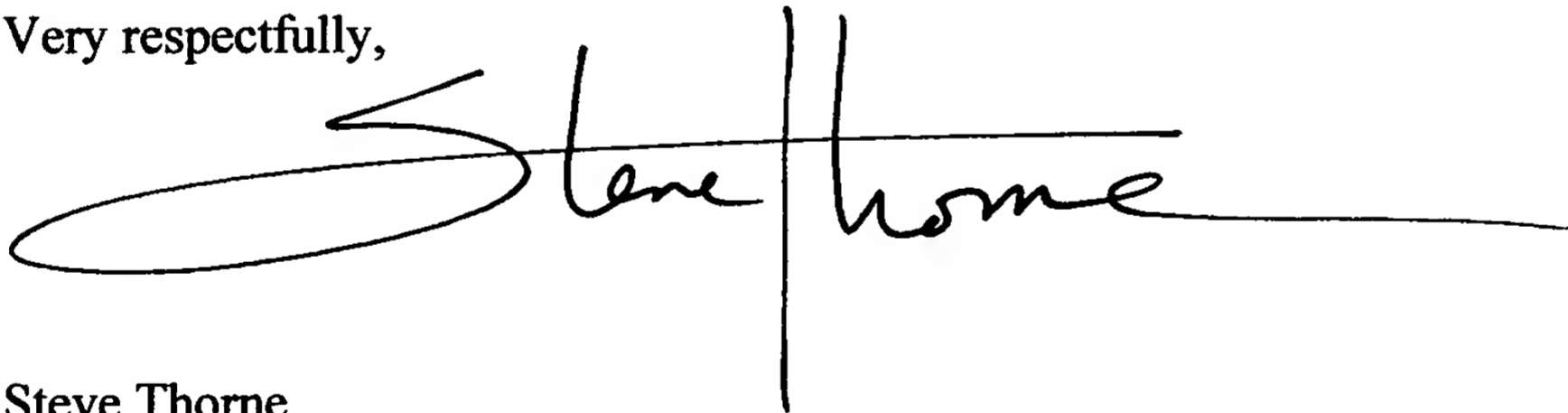
It is not difficult to build an equivalent device to one proposed in a new patent application by taking elements from different prior art sources. The unique teachings of applicant’s invention, wherein a host vehicle unites a forward monitoring radar to activate a rear-mounted brake light could easily be built from separate prior art teachings. Radar has been proposed for use to assist with vehicle safety since at least 1958 [Fogiel U.S. No. 2,851,120] and lights used to warn a trailing driver of a braking condition have been used in prior art devices well before that. **But no single prior art reference has taught us the unique benefit of combining the two elements together in a unique way which then informs a trailing driver of the braking condition of a vehicle forward of the host vehicle.** Applicant’s claim 12 teaches us such a unique device.

## IN SUMMARY

**The Examiner has rejected applicant's claim 12 as being '*anticipated*' by *Iihoshi et al's* patent and '*taught*' by *Wilson's*. But *Iihoshi et al's* patent does not anticipate applicant's element of a warning light for a trailing driver and *Wilson's* patent teaches us nothing about providing braking information about vehicles forward of the host vehicle nor does it teach us about radar. When each patent is considered separately – *as a single prior art reference*, neither can claim to have expressly or inherently anticipated the invention of applicant's claim 12.**

**For the above defined reasons, applicant respectfully requests that Claim 12, or an equivalent modified version - as might be directed by the Board of Patent and Appeals and Interferences, or the Examiner - be allowed.**

Very respectfully,

A handwritten signature in black ink. The signature is written in a cursive style. It starts with a large, looped 'S' that extends to the left. This is followed by the word 'Steve' and then 'Thorne'. A vertical line is drawn through the middle of the signature, separating 'Steve' from 'Thorne'. The signature ends with a long horizontal stroke that extends to the right.

Steve Thorne

applicant pro se

3315 Grand Avenue, Oakland CA 94610, Tel. (510) 836-1770

[Ps. Applicant welcomes the opportunity to further explain his position and answer any inquiries from the Board during the Oral Hearing requested herein.]

***37 CFR 41.37(c) (1) (viii) Claims Appendix:***

**Claim 12:** A device for alerting the driver of a vehicle trailing a host vehicle when a forward traveling vehicle forward of said host vehicle is decelerating comprising:

1. a radar device, mounted integrally with said host vehicle, with means to continuously measure a relative speed of said forward vehicle relative to said host vehicle;

2. a CPU, mounted integrally with said host vehicle, with means to ascertain a relative acceleration from said relative speed, with further means to ascertain said host vehicle's acceleration relative to the road from data provided by electronic connection to said host vehicle's speedometer system, with further means to derive an absolute acceleration of said forward vehicle relative to the road by computing the mathematical sum of said relative acceleration plus said host vehicle's acceleration, and with further means to continuously monitor said absolute acceleration for significant negative values;

3. a CPU controllable luminous display, mounted integrally with said host vehicle, sufficiently bright and strategically positioned to be visible to the driver of a vehicle trailing said host vehicle, activated whenever a significant negative value in said absolute acceleration of said forward vehicle occurs.

***37 CFR 41.37(c) (1) (ix) Evidence Appendix:***

<None>.

***37 CFR 41.37(c) (1) (x) Related Proceedings Appendix:***

<None>.

### Certificate of Mailing

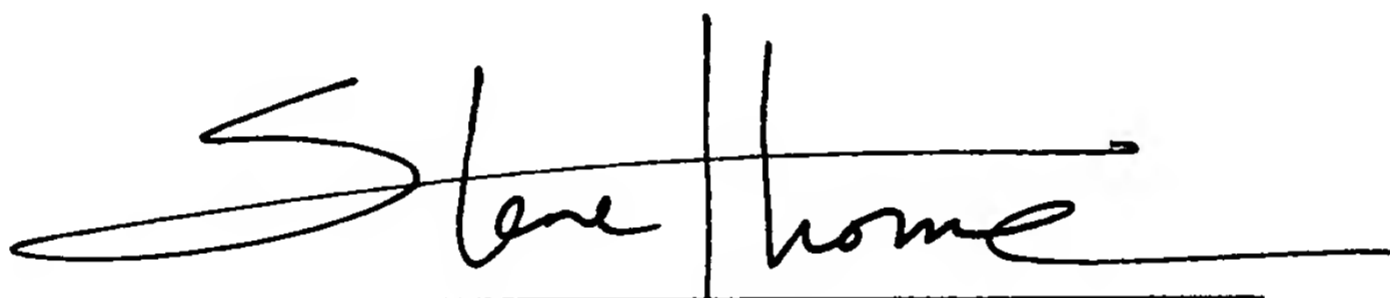
I certify that on the date below this document and referenced attachments, if any, will be deposited with the U.S. Postal Service as first class (priority) mail with proper postage affixed in an envelope addressed to:

**Commissioner for Patents**

P.O. Box 1450

Alexandria, VA 22313-1450

July 5, 2006

A handwritten signature in black ink, appearing to read "Steve Thorne", is written over a horizontal line. A vertical line intersects the signature and the horizontal line below it.

Steve Thorne, Applicant